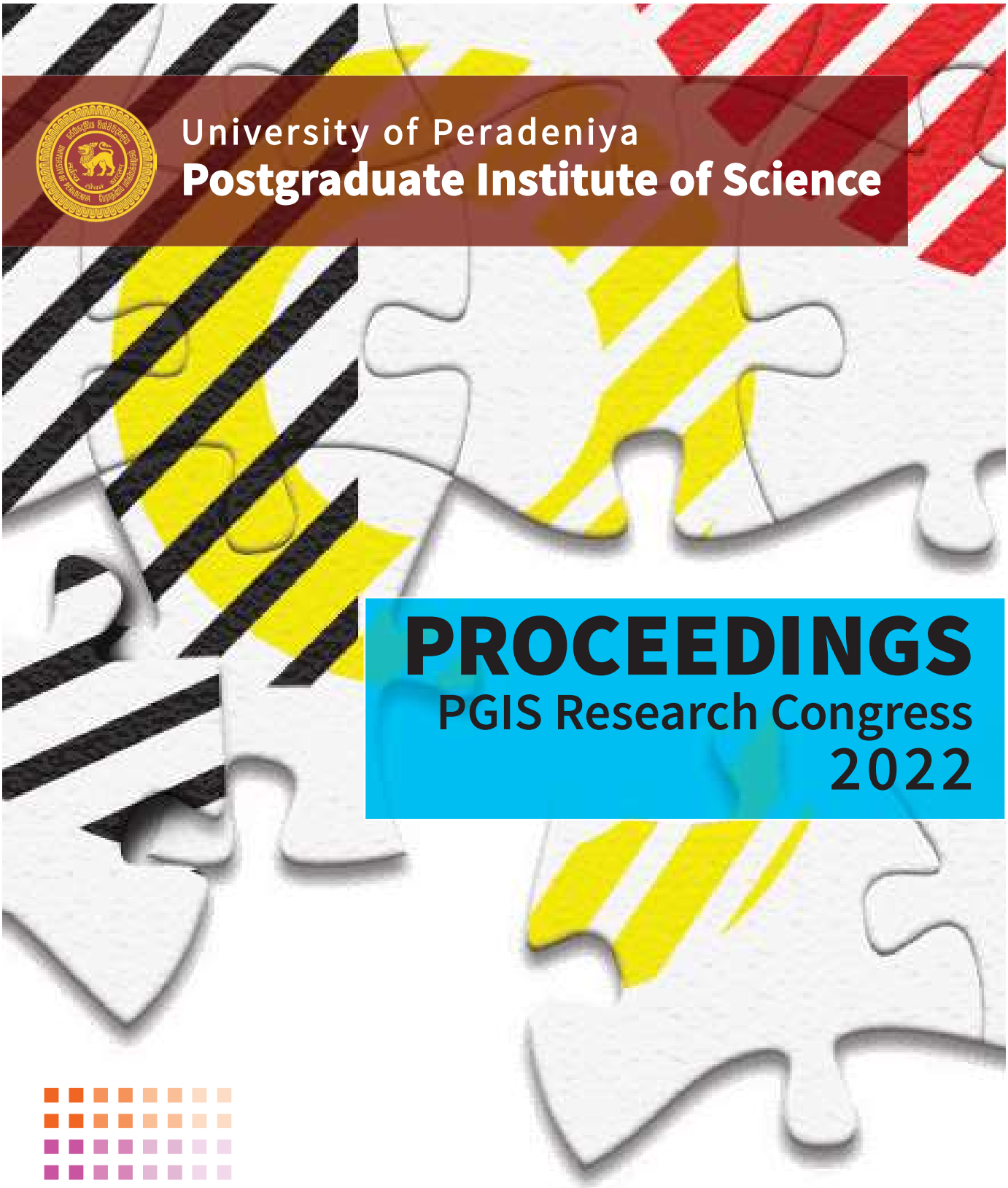

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ANTIFUNGAL, ANTIOXIDANT, CYTOTOXIC, PHYTOTOXIC ACTIVITIES AND α-AMYLASE INHIBITION OF *MIKANIA CORDATA* AND *PLUMERIA OBTUSA*

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For thousands of years, natural products obtained from earthly sources have engaged a vital role in medicine, agriculture, cosmetics and the food industry. Various new chemical compounds can be extracted from crude extracts of microorganisms, plants, or animals. *Mikania cordata* (MC) and *Plumeria obtusa* (PO) are plants used to treat numerous diseases in traditional medicine. This study was designed to determine the bioactivities of the leaves of MC and flowers of PO. The plant parts were collected from home gardens, Kandy of Sri Lanka washed, air dried, grounded and prepared the powdered material. Extractions were obtained using *n*-hexane, ethyl acetate (EtoAc) and methanol (MeOH). Phytotoxicity against germination of lettuce seeds, cytotoxicity against brine shrimp, antifungal activity against *Cladosporium cladosporioides*, 2,2-Diphenyl-1-picrylhydrazyl radical scavenging antioxidant activity, α-amylase inhibitory activity and lipase enzyme inhibitory activity were assessed for dilution series of each crude extracts ranging from 1000 mg l^{-1} to 31.25 mg l^{-1}. None of the crude extracts had any considerable inhibitory activity of lipase enzyme. MeOH extract of PO (POM) showed α- amylase enzyme inhibitory activity (IC_{50} 582 mg l^{-1}). MeOH extract of MC (MCM) showed the highest (IC_{50} 97.45 mg l^{-1}) antioxidant activity. EtOAc extract of PO (POE) also showed antioxidant activity (IC_{50} 832 mg l^{-1}). POE and POM showed considerable toxicity, and hexane extract of MC (MCH) showed a captivating lethality against brine shrimp (LD_{50} 1.54 mg l^{-1}). EtOAc extract of MC (MCE) showed inhibitory properties against root and shoot elongation of lettuce seeds. POM displayed an inhibition zone around a spot of a separated compound from MC on the TLC plate against *C. cladosporioides*. Since positive results were obtained for almost all the assays, the pure compounds included in the extracts of MC and PO may have these fascinating properties. Therefore, future studies can be directed towards isolating the responsible bioactive compounds.

Keywords: Bioactivity, Brine shrimp, Lettuce seeds, *Mikania cordata*, *Plumeria obtusa*